Manitoba Health Research Council

ANNUAL REPORT 2000-2001

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[redacted]

MISSION STATEMENT

To promote the growth and coordination of the health research enterprise in Manitoba

[redacted]

Cover photo – Dr. Geoff Hicks with laboratory group

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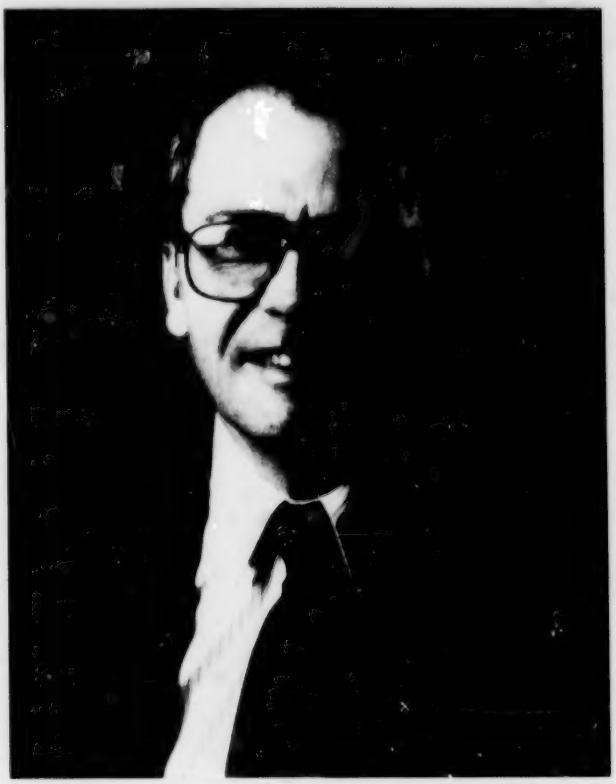
REPORT OF THE CHAIRMAN



It is my pleasure, as Chairman of the Manitoba Health Research Council, to report on the activities of the Council during the past year.

The health research environment continued to evolve at the national and local level over the past year. The appointment of Scientific Directors and the naming of Institute Advisory Boards for the thirteen Institutes that make up the Canadian Institutes of Health Research completed the reorganization of basic, clinical and applied health research funding at the national level. A significant development at the national level during the past year was the awarding of the first of the Canada Research Chairs by the Federal government. Of the twelve Chairs awarded to researchers in Manitoba, nine are in the health sciences. MHRC takes appreciable pride in the fact that it has provided direct support to the research programs of six of the nine. A significant development at the local level was the announcement by the Honourable MaryAnn Mihychuk that the Province will provide up to one million dollars annually for five years in matching funds for the CIHR Regional Partnerships Program. MHRC is pleased to have been assigned responsibility for administering the Provincial Regional Partnership funds on behalf of the Province.

As MHRC approaches its 20th year as a primary funding agency for basic, clinical and applied health research in the Province, it is fitting to reflect on the role Council has played in the support and promotion of health research in Manitoba. In the first decade following its establishment in 1982, MHRC played a significant part in the overall support of health research in the Province. In the early years, the Council supported a broad array of programs - operating grants, that were open to all staff at Manitoba's universities, equipment grants, conference and workshop grants, scholarship awards to newly appointed staff, postdoctoral fellowships and graduate studentships. However, the failure of the annual Provincial grant to MHRC to keep pace with the cost of conducting health research and the increase in the stipends of personnel awards has seriously eroded the Council's programs. MHRC funding is currently limited to: operating grants to recently appointed academic staff (individuals who have held an academic appointment at one of Manitoba's universities for not more than 5 years); establishment grants to recently appointed investigators who show exceptional promise;

postdoctoral fellowships; and graduate studentships. Particularly discouraging to the Council has been the large number of applications rated in the "*very good*" category that MHRC has been unable to fund.

The Council has been reduced to little more than "pump priming" status. A serious shortfall for MHRC is in the former University-Industry program. This program has stimulated research collaborations between commercial firms and university researchers, and frequently has led to startup companies and to license revenue for the University of Manitoba. The fund is now depleted, and our request for reinstatement of the fund has not been fulfilled. We are losing valuable return on our research investment as a consequence of this shortfall, and the opportunity to build firms in Manitoba to commercialize the research successes.

During the 2000-2001 fiscal year, MHRC committed 97 percent of the research funds available to it, other than the Regional Partnership grant, to the support of graduate students, post-doctoral fellows and newly appointed investigators. Even at this level of support and the release of core funds that had been previously allocated to the Regional Partnerships Program, the Council was unable to support many highly qualified individuals. The sad consequence of this situation is that Manitoba researchers continue to fall further behind in competition for external support in the fiercely competitive environment for research funding in the health sciences. Continued failure to support highly capable young scientists so that they can generate preliminary results will leave larger and larger numbers of them noncompetitive in national and international competitions. In addition, under-funding of health research in Manitoba leaves the Province highly vulnerable to the raiding of its most talented researchers by other jurisdictions (other provinces and other countries, in particular, the United States).

Although frustrated by the current funding environment and its inability to meet current demand for research funds, the Council continues to hold an optimistic view of the future. As reported last year, we presented a draft proposal for the restructuring of MHRC and its programs to the Minister of Health. Two meetings to discuss this proposal were held with the Honourable David Chomiak during the last fiscal year. Plans for further discussion during the current fiscal year have been encouraging. Nonetheless, Council feels it is urgent that action be taken on this plan if health research in Manitoba is to remain competitive in light of the major changes that have occurred in health research funding in Canada over the past two years. Members of the Council are resolute in their belief that a restructuring of MHRC will not only expand and strengthen health research in the Province, but will also facilitate recruitment and improve retention of highly qualified practitioners and, in turn, improve health care delivery and efficiency.

An important contribution to the quality and integrity of MHRC's programs is the peer review provided by Council's review committees and by the large number of out-of-

province reviewers. We are extremely grateful to the members of the review committees who volunteer many hours to the review and evaluation of applications to MHRC. The external reviewers, who generously contribute their expertise to the review process, are vital to the procedure because they bring an outside assessment of the quality of the applications to our programs. The latter is important because it provides an indication of the quality of applications to MHRC relative to research activity nationally and internationally. MHRC's programs are based on the principle that excellence is the most accurate indicator of future success.

Four members of Council, Dr. John Arnett, Dr. Albert Friesen, Mr. Martin Eva and Dr. Laurel Strain, recently completed two terms as members of our Council. On behalf of MHRC, I would like to thank them for their wise counsel and dedicated service over the past six years. In addition, Dr. Gary Glavin resigned from the Council as a result of being appointed the Deputy Director of the Canadian Science Centre for Human and Animal Health. We congratulate him on this appointment and wish him well in his new position. I also wish to welcome Dr. Andrew Halayko as a new member of the Council and I look forward to the University of Manitoba naming a replacement for Dr. Glavin, and the Province naming replacements for the four members who completed their second term as members of Council.

We have excellent health researchers in Manitoba. It is a privilege and a pleasure to support them through the Manitoba Health Research Council.

Respectfully submitted,

Ian C. P. Smith, Ph.D.
Chairman

Dr. Halayko Appointed to Council

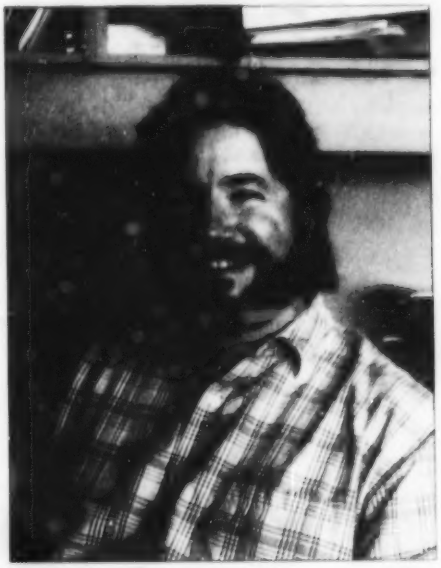
The appointment of Dr. Andrew Halayko to Council brings this young researcher "full circle". Dr. Halayko began his association with MHRC while a graduate student in the Department of Physiology where he was supported indirectly by an operating grant to his supervisor, Dr. Newman Stephens. A native Winnipegger, Dr. Halayko returned to the University of Manitoba from the University of Chicago in 1999. He holds academic appointments in the Departments of Physiology and Internal Medicine and is the Director of the Asthma-Chronic Obstructive Pulmonary Disease Centre. He also is a member of the Institute Advisory Committee for the newly formed Manitoba Institute of Child Health and is spearheading development of the Biology of Breathing Research Group in the Children's Hospital Research Institute, John Buhler Research Centre. Dr. Halayko's research is directed at understanding the mechanisms that regulate the role of smooth muscle in the pathogenesis of bronchial asthma. In the short period since his return, he has established an innovative research program involving 2 postdoctoral fellows, 3 graduate students and 2 research technicians. He currently holds a MHRC Establishment grant and a MHRC Operating grant. In addition to MHRC support, Dr. Halayko holds a CIHR/Canadian Lung Association Scholarship, Rx&D and operating grants from CIHR, a $350,000 Canadian Foundation for Innovation New Opportunities Award, and research grants from the Manitoba Medical Services Foundation and Health Sciences Centre Foundation. In a recent interview Dr. Halayko noted, "The strength of funding available to young investigators in Manitoba was a primary reason I chose to return".

Graduate student Dr. Alexander Vörös Dr. Andrew Halayko & MHRC studentship recipient Kam Kassiri

THE PEOPLE MHRC SUPPORTS

As Manitoba Health Research Council concludes 20 years of funding to health research in the Province, it is perhaps useful to reflect on the people supported by Council and the role MHRC funding has played in their development. Whether directly, through its studentships and fellowships, or indirectly, through its operating and establishment grants, Council's support programs are directed at people. Another feature of MHRC's grants and awards programs is the support of excellence. From its inception, MHRC has endorsed the principle that future success is best guaranteed by supporting "the best and the brightest". The past year has provided some measure of the merit and the success of these aims and objectives. Several individuals who have been funded by Council over the past few years have received national or international grants and awards.

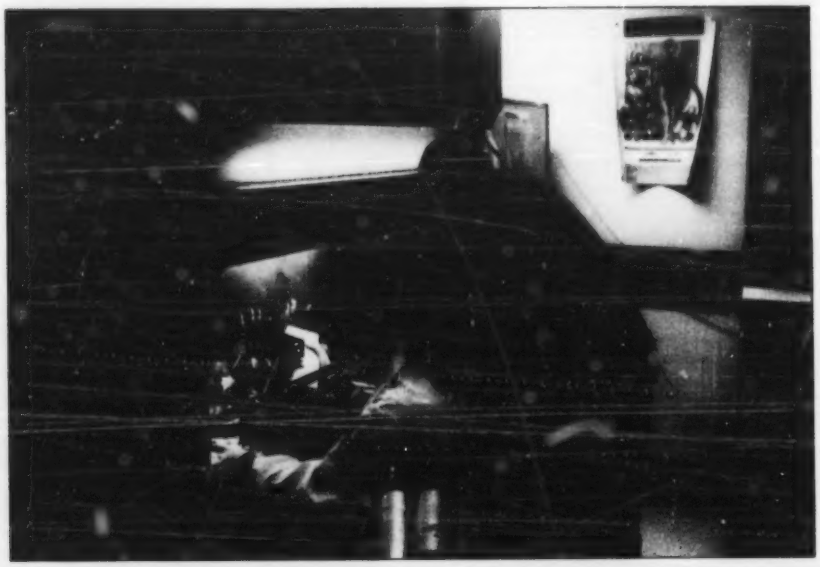
During the past year, the Federal Government announced the awarding of the first two rounds of Canada Research Chairs. Three of the Chairs awarded to the University of Manitoba in the "rising stars" category, researchers who are acknowledged to have great potential, went to individuals who were given start-up funding by MHRC. All three – Dr. Geoff Hicks, cell biology, and Dr. Larry Hryshko and Dr. Lorrie Kirshenbaum, physiology, Faculty of Medicine, U of M – are recognized for their "cutting edge" research. Each will receive $100,000 per year for five years.



A major focus of Dr. Hicks' research, his chair is in Functional Genomics, is a continuation of the finding that a gene known as the TLS is involved in genomic stability. His group is studying the mechanism of action of TLS in gene stability and DNA repair. These studies have important implications for cancer because DNA damage, genomic instability and genetic mutations are hallmarks of cancer and tumor progression.
Dr. Hicks also has been instrumental in the establishment of the Manitoba Institute of Cell Biology Mammalian Functional Genomics Centre. "The goal of the MICB Functional Genomics Centre" says Hicks "is to develop 20-40 thousand mouse embryonic stem cell mutations in the next three years and to establish the Centre as a leader in functional genomics internationally." Hicks' laboratory also is a member of the Centre for Genetic Modeling, a consortium of Manitoba's leading medical research labs each of which is recognized internationally for its contribution to cardiac, cancer, stroke, neurological, reproductive and rare genetic diseases. Many of the mutations developed by the Functional Genomic Centre will be used by the Centre for Genetic Modeling to quickly develop mouse mutation lines that Manitoba researchers can use to study the relationship of specific genes to particular diseases.

Dr. Hryshko's chair is in Cardiac Electrophysiology. His laboratory investigates novel strategies for improving cardiac performance, in situations such as congestive heart failure. "There are very few clinically useful drugs with direct action on the heart that can be administered over long periods of time." says Hryshko. A goal of his research is to understand the mechanism of action of a protein called the sodium-calcium exchanger, which functions to make the heart relax. "By understanding the action of this and other transport proteins at the molecular level," says Hryshko "we are devising novel strategies for improving cardiac function through pharmacological means." Dr. Hryshko's research also has been recognized by the Manitoba Heart and Stroke Foundation, which awarded him the 2000 Dr. R.E. Beamish Award. Besides the Canada Research Chair, Hryshko also received $188,000 from the Canadian Foundation for Innovation (CFI) for the purchase of new equipment. In addition to his research, Dr. Hryshko has taken an active role in providing medical students with first-hand experience in research. Two U of M students who worked under his supervision won major prizes at the annual American Medical Association sponsored National Student Research Forum. Dr. Sabin Shurraw was awarded the top prize for the Best Project in Physiology in 2001 and Dr. Jason Scott took the prize for Overall Excellence in Basic Research in 2000. The Forum is open to medical students from across Canada, the United States and Puerto Rica.

Dr. Kirshenbaum, whose chair is in Molecular Cardiology, is attempting to understand the genetic factors that tell heart cells when to grow and when to die. Unlike other cells in the body, cardiac muscle cells lose the ability to multiply and divide soon after birth, which has significant consequences for patients who suffer a heart attack; once cells of the heart are damaged they are lost and not replaced with new ones. Dr. Kirshenbaum's team has identified certain genes in the heart that are turned on during cardiac disease and cause heart cells to die prematurely. They have also shown that human factor Bcl-2, a gene initially identified in human cancer, can suppress cardiac cell death. "We are very excited with these findings," states Kirshenbaum. "They not only have broad implications for our understanding of heart disease but hold promise for the treatment of other diseases such as cancer." Dr. Kirshenbaum has been invited to two recent Gordon Conferences to describe his research on myocardial cell death to leading international cancer researchers. The long-term aim of Kirshenbaum's research program is the development of novel gene therapy strategies to treat patients suffering heart failure and other diseases.



Dr. Lorrie Kirshenbaum with technician student Chirstine Robinson

All of these researchers express deep appreciation to MHRC for the financial support provided during the critical start-up years of their research programs. "It would be very hard to overestimate the critical role MHRC funding played in the success of my research program," says Dr. Geoff Hicks. "The MHRC Establishment Program for new investigators was a major factor in my recruitment to Manitoba. It is one of the few major sources of funding available that keeps Manitoba anywhere near competitive with other Canadian provinces or with the significantly larger start-up funds available at U.S. institutions." Hicks goes on to point out that MHRC support of his research was instrumental in over $6 million of new research money coming to his lab and to Manitoba. Dr. Lorrie Kirshenbaum also expressed gratitude to MHRC for "providing the necessary 'seed money' that, in my opinion, was necessary for propelling my research program to the international level".

Drs. Hicks, Hryshko and Kirshenbaum are not the only researchers, who have been supported by MHRC, to bring honour to Manitoba this past year. Dr. David Eisenstat, a Canadian physician-scientist who was recruited back to Canada following extensive clinical and research training at the University of California, San Francisco and the University of Texas, M.D. Anderson Cancer Center, was awarded the Basil O'Connor Starter Scholar Award. The award is supported by the United States March of Dimes. Dr. Eisenstat divides his time between clinical responsibilities and research. His clinical responsibilities are focused on children with cancer and blood disorders and adults with brain tumors. He also is the Director of Neuro-Oncology at CancerCare Manitoba. His research, which is directed towards understanding the regulation of neuronal growth and differentiation during development, is of fundamental importance to pediatric oncology. Eisenstat points out that, except for accidents, cancer is the most common cause of death in children and adolescents. The primary aim of his research is a better

understanding of two key regulatory molecules identified by him during earlier research. "Our ultimate aim," states Eisenstat, "is to develop novel therapeutic approaches, that complement current treatment strategies, by modifying neuronal differentiation in pediatric malignancies, such as neuroblastoma, retinoblastoma and brain tumors." Eisenstat also praised the importance of MHRC support in helping new investigators to Manitoba launch their research programs. "Support from MHRC has been fundamental to the establishment of my laboratory (a 3-year establishment grant, 2000-2003 used to purchase necessary equipment) and to my research program (an operating grant, 1999-2001 for the study of glia maturation factor)."

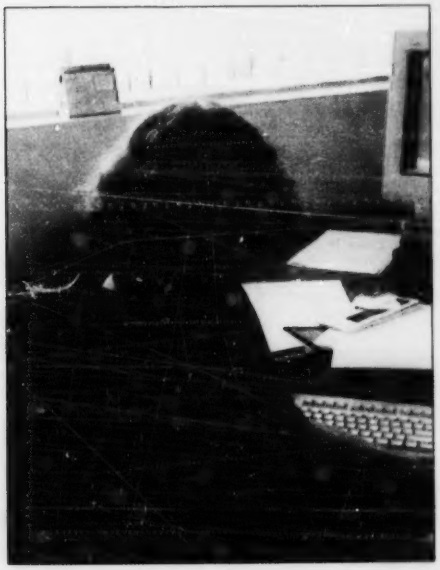
Dr. David Eisenstat and laboratory group

Dr. Judith Chipperfield, a member of the Health, Leisure and Human Performance Research Institute recently received a 5-year CIHR Investigators award. The award is intended for health researchers who have developed a reputation for excellence in research early in their career. Her research is focused on perceived control – the perception that one can influence life events. She has found that an individual's perception of control relates to health, the use of health-care services, and survival. Older individuals with strong perceptions of control visit their physicians less frequently, are hospitalized fewer times and survive longer. Dr. Chipperfield's research is supported by grants from CIHR and its predecessor MRC. In addition, she has received funding in cooperation with other researchers from SSHRC and the former NHRDP. Dr. Chipperfield received a MHRC Studentship during her graduate training and a MHRC Scholarship as a newly appointed academic. "The MHRC investment in my career contributed in no small way to the subsequent success of my career," states Chipperfield. "At the beginning of my career, a time when most faculty members struggle to balance the demands of teaching, research and service, the MHRC

Scholarship award allowed me to focus my efforts on research and to write the many grant applications required to fund a research program." MHRC continues to support Dr. Chipperfield's research through a postdoctoral fellowship to Dr. Nancy McKeen, a PD fellow in her lab, and a studentship to Audrey Swift, one of her graduate students.

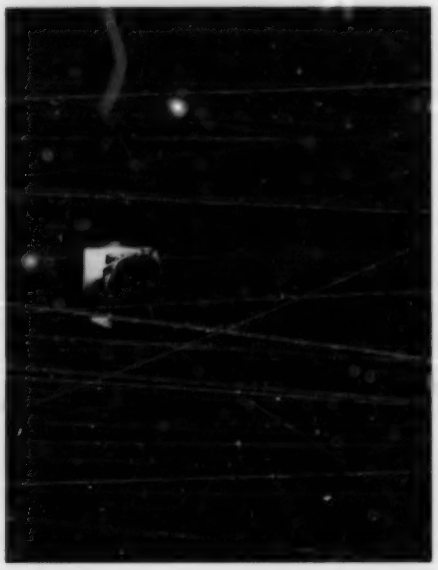
Dr. Judy Chipperfield with graduate student Audrey Swift

MHRC's operating grant to Dr. Patricia Martens, a professor in the Department of Community Health Sciences and researcher with the Manitoba Centre for Health Policy and Evaluation, "was a much appreciated contribution to my launch as an independent researcher," says Martens. Although she had appreciable research experience on a variety of projects and had been a co-investigator on many of them, the MHRC award was the first major award where she was the principal investigator. Martens recently played a lead role in securing a $2.257 million 5-year grant through the CIHR Community Alliances for Health Research Program for a project entitled "The Need to Know: Collaborative Research by the Manitoba Centre for Health Policy and Evaluation, Manitoba's Rural and Northern RHAs, and Manitoba Health". The project, which is a major joint undertaking with Manitoba Health and the Regional Health Authorities, will involve collaborative research and training opportunities with a team of decision-makers and policy planners. It will provide the background and



training that will enable the RHAs to move into research and to apply the results of this research in planning their operations. The project will be co-directed by Dr. Martens and Dr. Charlyn Black. In addition to the operating grant, Dr. Martens also received a MHRC studentship during her PhD program. MHRC also provided support to Dr. Black during her research training; she was the recipient of a MHRC post- doctoral fellowship. Her supervisor during her postdoctoral studies was Dr. Noralou Roos, with whom she is currently Co-Director of the Manitoba Centre for Health Policy and Evaluation.

Another MHRC supported researcher who recently received major national funding is Dr. Michael Mayne, Department of Pharmacology and Therapeutics and a member of the Division of Neurovirology and Neurodegenerative Disorders at the St. Boniface Hospital Research Centre. Dr. Mayne, who was a MHRC PD Fellow and currently holds a MHRC operating grant, was the recipient of a $500,000 Canadian Foundation for Innovation grant for the purchase of new equipment. The equipment will greatly strengthen his research on diseases such as Alzheimer's and Multiple Sclerosis. It will enable his group to study thousands of genes at a time, which will allow them to identify pro-inflammatory genes that are involved in the inflammation of the central nervous system in their research on MS. Dr. Mayne also attributes the support he received from MHRC at the post-doctoral level and now as an independent investigator of paramount importance in his development as a research scientist.



An interesting postscript to this account on Dr. Mayne's development as a research scientist, illustrates the continuous role MHRC has played in the support of health research over the past 19 years. During part of Mayne's post-doctoral training, his supervisor was Dr. Jonathan Geiger, who also had been the recipient of a MHRC PD Fellowship (82-84). He also was the recipient of a MHRC Scholarship (84-86). Dr. Geiger, who is the Director of the Division of Neurovirology and Neurodegenerative Disorders at St. Boniface Hospital Research Centre, recently received a $350,000 grant from the Secretary of State for Amateur Sport (Canada) for the establishment of the Centre for Substance Use in Sport and Health. The Centre will focus on research-based educational programs related to substance use in sport and health.

Another example of payback on earlier investment is Dr. Kent HayGlass, who was recently awarded a Canada Research Chair in Immune Regulation. The award will bring the University of Manitoba and the Province $1.4 million over 7 years. "The MHRC Scholarship and Establishment grant programs, at the time, were instrumental in my decision to come to Manitoba in 1986," says HayGlass. Research by Dr. HayGlass and his group is dedicated to discovering why some individuals develop allergies

whereas others do not when exposed to the same allergens and to containing the enormously increased incidence of asthma among Manitoba children in recent years.

In like fashion, MHRC support of graduate students has enhanced their development as scientist. Dr. Brad Doble, who is currently a postdoctoral fellow at the Ontario Cancer Institute, held a MHRC Studentship during part of his PhD training. "Awards like the MHRC studentship help establish a 'track record' for a scientist which is important if one is to advance in a scientific career," says Doble. "I am sure the MHRC studentship on my c.v., together with my publication record, was instrumental in my receiving a CIHR Postdoctoral Fellowship". The Institute for Cardiovascular Sciences, St. Boniface Hospital Research Foundation recognized Dr. Doble's research potential by awarding him the 2000 Henry Friesen Young Scientist Award. Dr. Henry Friesen, the distinguished Manitoba scientist and former President of the Medical Research Council of Canada, was instrumental in the founding of MHRC and was the first chair of its Operating Grants Scientific Review Committee.

Dr. Brad Doble receiving The Henry Friesen Award from the RT. Honourable Peter Liba

Ms. Shahin Shooshtari, a PhD student in the Department of Community Health Sciences, was awarded a MHRC Studentship in 1999. Shortly after receiving the studentship, she successfully applied to Statistics Canada for a research stipend. The two awards allowed her to spend eight months at Statistics Canada in Ottawa and the opportunity to become familiar with the National Population Health Survey longitudinal database. In the fall of 2000, she was awarded a two-year PhD Training Award from CIHR. "When I look back over the past two years, I see the MHRC Studentship as a key factor in all of these achievements," observes Shooshtari. "I am sure the MHRC Studentship was important in my receiving the other two major awards." In addition to her thesis research, Ms. Shooshtari works part-time with Manitoba Health, primarily in the area of population health and the development of health indicators for Manitoba RHAs.

MEMBERS OF THE MANITOBA HEALTH RESEARCH COUNCIL

Dr. I. C. P. Smith ✦, Chair
Director General
Institute for Biodiagnostics
National Research Council

Dr. J. Arnett
Head, Clinical Health Psychology,
University of Manitoba

Dr. P.C. Choy ✧ ✦
Associate Dean (Research)
Faculty of Medicine
University of Manitoba
(from July 2000)

Mr. M. Eva ✦, Vice-Chair
President, John A. Flanders Ltd.

Dr. J. Evans ✦
Department of Biochemistry
& Medical Genetics
University of Manitoba

Dr. N. Fleming
Department of Oral Biology
University of Manitoba

Dr. B. Friesen
President, Medicure Inc.

Dr. G. Glavin ✧
Associate Vice-President (Research)
University of Manitoba
(to March 2001)

Dr. A. Halayko
Department of Internal Medicine
University of Manitoba
(from January 2001)

Dr. J. Keselman ✧ ✦
Vice President (Research)
University of Manitoba.
(to July 2000)

Mr. T. McCormack
Senior Policy Advisor
Department of Health

Dr. C. Metge
Faculty of Pharmacy
University of Manitoba

Dr. L. Strain
Director, Centre on Aging,
University of Manitoba

✦ Members of the Executive/Finance Committee

✧ Appointed by the University of Manitoba

COUNCIL SECRETARIAT

Executive Director
Dr. Bruce E. McDonald

Administrative Secretary
Ms Elizabeth C. Ford

PURPOSE AND OVERVIEW OF PROGRAMS

1. PURPOSE

Established by an Act of the Legislature June 30, 1982 to promote and assist basic, clinical and applied research in the health sciences in Manitoba and advise the Minister on health research matters referred to Council.

2. FUNDING

Core Programs: These programs have been funded by grants from the Department of Health and the Manitoba Lotteries Foundation. Funding for 1999/00 was $1,752,600 from the lotteries funded portion of the Department of Health budget.

University-Industry Program: This program is supported by a fund established with monies transferred by the Federal Government to the Province as a result of Bill C-22 (act to amend the drug patent act). Once these funds have been expended, no future funding source has been identified to allow continuation of this economically extremely important program.

3. PROGRAMS

i. Core Programs

Establishment Grants: Establishment Grants are provided to recently recruited faculty members to permit them to focus on establishing research programs. The awards, for up to $100,000 to be used within a 3-year period, provide support for a variety of purposes, e.g., buy-out of teaching time, salary for research personnel (other than the applicant's salary), purchase of equipment and supplies, etc.. Council will not normally consider applications for Establishment Grants from individuals who have been independent for more than three years.

Operating Grants: Normally only investigators who hold an academic appointment (or equivalent) in the Province of Manitoba and have been independent investigators for a period of not more than five years are eligible to apply. Investigators who do not meet these requirements should consult with Council to establish their eligibility before applying.

Postdoctoral Fellowships: A limited number of fellowships are available to qualified candidates with a doctoral degree whose prior postdoctoral research training shall normally not exceed 3 years.

Graduate Studentships: A limited number of studentships are offered to qualified graduate students who are undertaking full-time Master's or Doctoral programs in the Province of Manitoba. However, in disciplines where training at the doctoral level is not available within the Province, Council will consider funding elsewhere if documented evidence is provided confirming the unavailability of Provincial training opportunities, a need in Manitoba for individuals with the training and a firm intent to return to the Province after training.

PhD Dissertation Awards: Dissertation awards are provided to students enrolled in a PhD program in population health or health-related social sciences in Manitoba who have completed all relevant course work and whose dissertation proposal has been approved by their PhD Advisory Committees. The awards, for up to $5,000, are to be used to cover costs incurred in the conduct of the students' dissertation research.

Bridge Funding: Bridge funding awards are once only, one year awards designed to allow experienced, productive investigators, who have lost funding from a major national agency, to maintain their research operation while they attempt to regain national funding.

Partnership Programs: Partnership awards (matching funds) are available to individuals who have been awarded CIHR Regional Partnership Program grants provided they have received an CIHR rating of 3.5 or above or a grant with a comparable rating from an equivalent program. Awards from MHRC are for two years only.

2000 - 2001 FISCAL EXPENDITURES OVERVIEW

TOTAL EXPENDITURES

	AMOUNT	%
TOTAL	**$2,816,790**	**100.0**
Grants and Awards	$2,701,730	95.92
Administration	$ 115,060	4.08

ADMINISTRATION

	AMOUNT	%
TOTAL	**$115,060**	**100.0**
Salaries	$100,593	87.4
Supplies & Equipment	$ 2,789	2.4
Miscellaneous	$ 11,678	10.2

GRANTS AND AWARDS

	#	AMOUNT	%
TOTAL		**$2,701,730**	**100.0**
Establishment Grants		$ 491,400	18.2
Postdoctoral Awards		$ 248,000	9.2
Studentship Awards		$ 520,717	19.2
Operating Grants		$ 473,700	17.5
Bridge Funding Grants		$ 15,500	0.5
Regional Partnership Grants		$ 908,663	33.6
University/Industry Grants		$ 48,750	1.8

THE MANITOBA HEALTH RESEARCH COUNCIL

MANAGEMENT REPORT

The accompanying financial statements are the responsibility of management and have been prepared in accordance with generally accepted accounting principles. In management's opinion the financial statements have been properly prepared and of necessity include some amounts based upon management's best estimates and judgements.

As management is responsible for the integrity of the financial statements, management has established systems of internal control to provide assurance that assets are properly accounted for and safeguarded from loss.

Bruce E. McDonald

B.E. McDonald, Ph.D, FCIFST
Executive Director

DAY & STOKOTELNY

CHARTERED ACCOUNTANTS
BUSINESS CONSULTANTS

Kenneth E. Day, CA
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Winnipeg, Manitoba R2M 3W5

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July 5, 2001

AUDITORS' REPORT

To the Legislative Assembly of Manitoba:

We have audited the statement of financial position of **The Manitoba Health Research Council** as at March 31, 2001 and the statements of revenue, expenditures and fund balances and changes in cash flows for the year then ended. These financial statements are the responsibility of Management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of The Manitoba Research Council as at March 31, 2001, and the results of its operations for the year then ended in accordance with generally accepted accounting principles.

Day & Stokotelny

Chartered Accountants

THE MANITOBA HEALTH RESEARCH COUNCIL

STATEMENT OF FINANCIAL POSITION

MARCH 31	2001	2000
ASSETS		
Current		
Cash	$ 7,509	$ 4,648
Short-term investments (market value $1,167,108; 2000 - $908,528)	1,124,922	858,608
Accounts receivable	282,146	9,313
Accrued interest receivable	51,223	40,279
Deposits	500	500
	1,466,300	913,348
Capital assets, at cost (note 2)		
Office equipment	6,375	6,375
Computer equipment	2,515	2,515
	8,890	8,890
Less: Accumulated amortization	(3,769)	(2,489)
	5,121	6,401
	$ 1,471,421	$ 919,749
LIABILITIES		
Current		
Accounts payable and accrued liabilities	$ 22,008	$ 6,433
Research grants payable	660,215	142,711
	682,223	149,144
Non-current research grants payable	28,500	42,000
	710,723	191,144
Future commitments of the Research Fund (note 3)		
FUND BALANCES		
Research Fund	376,592	314,417
Strategic Health Research Development Fund	384,106	414,188
Total fund balances	760,698	728,605
	$ 1,471,421	$ 919,749

APPROVED BY THE BOARD

Director

Director

See Accompanying Notes

THE MANITOBA HEALTH RESEARCH COUNCIL

STATEMENT OF REVENUE, EXPENDITURES AND FUND BALANCES

YEAR ENDED MARCH 31, 2001

	Research Fund	Strategic Health Research Development Fund	2001 Total	2000 Total
REVENUE				
Province of Manitoba – Grant	$ 1,752,600	$ -	$ 1,752,600	$ 1,752,600
Regional Partnerships Grant	992,351	-	992,351	-
Grants returned / rescinded	21,962	1,346	23,308	316,695
Interest	51,796	28,828	80,624	48,767
	2,818,709	30,174	2,848,883	2,118,062
EXPENDITURES				
Personnel awards	768,717	-	768,717	794,528
Research grants	1,020,600	48,750	1,069,350	910,656
Regional Partnerships Awards	863,663	-	863,663	119,888
Administration (schedule)	103,554	11,506	115,060	109,145
	2,756,534	60,256	2,816,790	1,934,217
Excess (deficiency) of revenue over expenditures	62,175	(30,082)	32,093	183,845
FUND BALANCES				
Fund balances, beginning	314,417	414,188	728,605	544,760
Fund balances, ending	$ 376,592	$ 384,106	$ 760,698	$ 728,605

See Accompanying Notes and Schedule

THE MANITOBA HEALTH RESEARCH COUNCIL

STATEMENT OF CHANGES IN CASH FLOWS

YEAR ENDED MARCH 31	2001	2000
Operating activities		
Excess of revenue over expenditures	$ 32,093	$ 183,845
Amortization not requiring a current outlay of funds	1,280	1,600
	33,373	185,445
Net change in non-cash working capital balances		
(Increase) decrease in short-term investments	(266,314)	158,990
(Increase) decrease in accounts receivable	(272,833)	(8,977)
(Increase) decrease in accrued interest receivable	(10,944)	39,042
Increase in accounts payable and accrued liabilities	15,575	2,133
Increase (decrease) in current research grants payable	517,504	(452,487)
	(17,012)	(261,299)
	16,361	(75,854)
Financing activities		
Increase (decrease) in non-current research grant	(13,500)	23,750
Increase (decrease) in cash during the year	2,861	(52,104)
Cash, beginning of year	4,648	56,752
Cash, end of year	$ 7,509	$ 4,648

See Accompanying Notes

THE MANITOBA HEALTH RESEARCH COUNCIL

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2001

1 **Incorporation and function**

The Manitoba Health Research Council was established by The Manitoba Health Research Council Act to promote and assist basic, clinical and applied research in the health sciences in Manitoba. The Council relies entirely on grants from the Province of Manitoba and its agencies. The Manitoba Health Research Council is a registered charity within the meaning of the Income Tax Act.

2 **Significant accounting policies**

Fund accounting

The Manitoba Health Research Council follows the restricted fund method of accounting for contributions.

The Strategic Health Research Development Fund reports only restricted resources that are used for qualified research and development projects in the health industry sector in Manitoba. Grants awarded to qualified researchers must be matched by private sector grants awarded to those researchers. Grants and awards are recorded as an expenditure in the year the commitment is made regardless of when the grant will be paid out.

The Research Fund reports only restricted resources that are used for research purposes.

Capital assets

Capital assets are amortized at rates and methods designed to write-off the assets over their estimated useful lives as follows:

Office equipment	20% diminishing balance
Computer equipment	20% diminishing balance

Short-term investments

Short-term investments are carried at the lower of cost and market value.

Interest revenue

Interest revenue is allocated proportionately to the Strategic Health Research Development Fund and to the General Fund on the basis of monthly Fund balances.

Research grants and Regional Partnerships Awards

Research grants and Regional Partnerships Awards are charged to expenditures when funding is committed by Council. Research grants returned to or rescinded by the Council are recorded as revenues when received or rescinded.

Personnel Awards

Personnel awards and their renewals are charged to expenditures when funding is approved by Council.

Administration Expenditures

Administration expenditures are allocated 10% (2000 – 30%) to the Strategic Health Research Development Fund and 90% (2000 - 70%) to the Research Fund.

3 Future commitments of the Research Fund

The Manitoba Health Research Council has committed grants and awards under the Research Fund as follows:

2002	$ 1,728,011
2003	237,100
2004	77,000
2005	77,000
	$ 2,119,111

Future commitments of the Research Fund are not recorded as an expenditure in the year of commitment.

These commitments are funded as follows:

Current Research Fund Balance	$ 376,592
Future provincial government funding	1,742,519
	$ 2,119,111

4 Related party transactions

Office accommodation is provided at no charge by the University of Manitoba.

In addition to those related party transactions disclosed elsewhere in these financial statements, the Council is related to all Province of Manitoba departments and agencies. The Council enters into transactions with these entities in the normal course of business.

THE MANITOBA HEALTH RESEARCH COUNCIL

Schedule

ADMINSTRATION EXPENDITURES

YEAR ENDED MARCH 31	2001	2000
Amortization	$ 1,280	$ 1,600
Audit	2,200	2,100
Bank charges	175	274
Council and committee expenses	1,855	1,714
Goods and Services Tax	217	264
Insurance	2,975	2,975
Office maintenance	436	679
Postage and delivery	1,436	1,091
Printing and stationery	2,789	2,903
Salaries and benefits	100,593	94,464
Telephone	1,101	1,081
	$ 115,060	$ 109,145

See Accompanying Notes

GENERAL COMPETITION

OPERATING & ESTABLISHMENT GRANT
SCIENTIFIC REVIEW COMMITTEE

Dr. Klaus Wrogemann, Chair
Department of Biochemistry and Medical Genetics
Faculty of Medicine, University of Manitoba

Dr. Frances Amara
Department of Biochemistry and Medical Genetics
St. Boniface Hospital Research Centre

Dr. Allan Becker
Department of Pediatrics, Faculty of Medicine
University of Manitoba

Dr. Peter Cattini
Department of Physiology, Faculty of Medicine
University of Manitoba

Dr. Angelika Dawson
Department of Pediatrics, Faculty of Medicine
University of Manitoba

Dr. Pavel Dibrov
Department of Microbiology, Faculty of Science
University of Manitoba

Dr. John Docherty
Institute for Biodiagnostics
National Research Council

Dr. Brian Hasinoff
Faculty of Pharmacy
University of Manitoba

Dr. Asad Junaid
Department of Internal Medicine
St. Boniface Hospital Research Centre

Dr. Anton Lukas
Institute for Cardiovascular Sciences,
St. Boniface Hospital Research Centre

Dr. Jim Peeling
Department of Pharmacology, Faculty of Medicine
University of Manitoba

PERSONNEL REVIEW COMMITTEE

Dr. John Eales, Chairman
Department of Zoology, Faculty of Science
University of Manitoba

Dr. Asher Begleiter
Manitoba Institute of Cell Biology
CancerCare Manitoba

Dr. Donald Houston
Manitoba Institute of Cell Biology
CancerCare Manitoba

Dr. James Johnston
Department of Internal Medicine, Faculty of Medicine
University of Manitoba

Dr. Elissavet Kardami
Department of Human Anatomy & Cell Science
St. Boniface Hospital Research Centre

Dr. Valery Kupriyanov
Institute for Biodiagnostics
National Research Council

Dr. Peter Nickerson
Department of Immunology, Faculty of Medicine
University of Manitoba

Dr. Joseph O'Neil
Department of Chemistry, Faculty of Science
University of Manitoba

Dr. Elliott Scott
Department of Oral Biology, Faculty of Dentistry
University of Manitoba

Dr. Jerry Vriend
Department of Human Anatomy & Cell Science, Faculty of Medicine
University of Manitoba

Dr. Xi Yang
Deparment of Medical Microbiology, Faculty of Medicine
University of Manitoba

SOCIAL/POPULATION HEALTH REVIEW COMMITTEE

Dr. Robert McIlwraith, Chair
Clinical Health Psychology, Faculty of Medicine
University of Manitoba

Dr. James Blanchard
Manitoba Health
Province of Manitoba

Dr. Juliette Cooper
Department of Medical Rehabilitation, Faculty of Medicine
University of Manitoba

Dr. Wendy Dahlgren
Natural Resources Institute
University of Manitoba

Dr. Annette Gupton
Faculty of Nursing
University of Manitoba

Dr. Dexter Harvey
Faculty of Education
University of Manitoba

Dr. Alan Katz
Department of Family Medicine, Faculty of Medicine
St. Boniface Hospital

Dr. Verena Menec
Department of Community Health Sciences, Faculty of Medicine
University of Manitoba

Dr. Barbara Payne
Department of Sociology, Faculty of Arts
University of Manitoba

Dr. Annalee Yassi
Department of Community Health Sciences, Faculty of Medicine
University of Manitoba

BRIDGE FUNDING REVIEW COMMITTEE

Dr. Klaus Wrogemann, Chairman
Department of Biochemistry and Medical Genetics
Faculty of Medicine, University of Manitoba

Dr. Allan Becker
Department of Pediatrics, Faculty of Medicine
University of Manitoba

Dr. John Docherty
Institute for Biodiagnostics
National Research Council

OPERATING & ESTABLISHMENT GRANTS

NEW ESTABLISHMENT GRANTS

Recipient, Department, Institution. Project or Field of Research.	Amount
Eisenstat, David D., Section of Pediatric Oncology, CancerCare Manitoba. Neuronal differentiation during development and in pediatric malignancies.	$34,700.00
Fowke, Keith R., Department of Medical Microbiology, University of Manitoba. Mechanisms of rapid disease progression in HIV infection.	$54,500.00
Gibson, Spencer B., Manitoba Institute of Cell Biology,CancerCare Manitoba. Identify MEKK1 and AKT signal transduction pathways leading to the regulation of apoptosis.	$45,000.00
Halayko, Andrew J., Department of Physiology,University of Manitoba. Elucidate cellular and molecular mechanisms that regulate airway myocyte phenotype and function, and to understand the significance of these mechanisms in the contribution of airway smooth muscle cells to the pathogenesis of asthma.	$50,000.00

Recipient, Department, Institution. Project or Field of Research.	Amount
Leygue, Etienne, Department of Biochemistry & Medical Genetics, University of Manitoba. Mammaglobin and lipophilin related molecules in normal and tumor human breast tissue: expression, hormone regulation and functional analysis.	$31,800.00
Mesaeli, Nasrin, Division of Stroke & Vascular Disease, St. Boniface Hospital Research Ctr. Role of calreticulin in vascular smooth muscle Ca homeostasis.	$57,000.00
Weiler,Hope A., Department of Foods & Nutrition,University of Manitoba. Relationships among fatty acid nutrition, body composition, medical therapy and growth, bone health and development at both the whole body and biochemical level.	$45,000.00
TOTAL	**$318,000.00**

ESTABLISHMENT GRANT RENEWALS

Recipient, Department, Institution. Project or Field of Research.	Amount
Amara, Francis, Division of Alzheimer's Disease, St. Boniface Hospital Research Centre. Postranscriptional regulation of the Alzheimer precursor protein mRNA by transforming growth Factor –B.	$40,000.00
Hicks, Geoffrey , Manitoba Institute of Cell Biology, Manitoba Cancer Treatment & Research Foundation. Development of an embryonic stem cell library of defined mutations.	$27,000.00
Junaid, Asad, Internal Medicine, University of Manitoba. Molecular mechanisms of chronic renal injury: focus on the tubulointerstitium and differential gene expression.	$20,000.00
Metge, Colleen J., Faculty of Pharmacy, University of Manitoba. Evaluating drug therapy effectiveness in the population of Manitoba elderly.	$25,000.00

Recipient, Department, Institution. Project or Field of Research.	Amount
Myal, Yvonne, Pathology, University of Manitoba. The role of the IGFI receptor (IGFIR) in mammary gland development and functions.	$33,400.00
Porter, Michelle, Physical Education & Recreation Studies, University of Manitoba. Neural contributions to lengthening contractions as assessed by functional magnetic resonance imaging and isokinetic dynamometry.	$8,000.00
Yang, Xi , Medical Microbiology, University of Manitoba. Study of the roles played by cytokines/chemokines in allergy and infection and development of immunoprophylactic approaches for these diseases.	$20,000.00
TOTAL	**$173,400.00**

NEW OPERATING GRANTS

Investigator(s), Department, Institution. Project or Field of Research.	Amount
Dibrov, Pavel, Department of Microbiology, University of Manitoba. Cloning and characterization of the specific Na+/H+ antiporter, NhaD in Vibrio cholerae.	$51,000.00
Eisenstat, David D., Department of Pediatric Oncology, CancerCare Manitoba. Glia maturation factor (GMF): examination of its role as an actin depolymerizing factor in health and disease.	$50,000.00
Eschun, Gregg, Respiratory Research, Department of Internal Medicine, Health Sciences Centre. Effect of histamine H3 receptor activation on cardiovascular collapse in sepsis.	$27,700.00
Fowke, Keith R., Department of Medical Microbiology, University of Manitoba. Mechanisms of rapid disease progression in HIV infection.	$50,000.00
Halayko, Andrew J., Department of Physiology, University of Manitoba. Airway smooth muscle cell phenotype and heterogeneity: the role of laminin in post-transcriptional regulation.	$45,000.00

Investigator(s), Department, Institution. Project or Field of Research.	Amount
Hicks, Geoff, Manitoba Institute of Cell Biology, Cancer Care Manitoba. Molecular mechanisms of TLS in the maintenance of genomic stability.	$55,000.00
Leygue, Etienne, Department of Biochemistry and Medical Genetics, University of Manitoba. Mammaglobin and lipophilin related molecules in normal and tumor human breast tissue: expresssion, hormone regulation and functional analysis.	$55,000.00
Martens, Patricia J., Department of Community Health Sciences, MB Ctr for Health Policy & Eval. Evaluating the effectiveness of breastfeeding promotion strategies in rural Manitoba - a First Nations community and a Rural Health Authority.	$25,400.00
Mesaeli, Nasrin, Division of Stroke & Vascular Disease, St. Boniface Hospital Research Ctr.. Role of calreticulin in vascular smooth muscle Ca homeostasis.	$58,600.00
TOTAL	**$417,700.00**

OPERATING GRANT RENEWAL

Investigator(s), Department, Institution. Project or Field of Research.	Amount
Pind, Steven , Department of Biochemistry and Medical Genetics, University of Manitoba. Biochemical and functional characterization of 3-phosphoglycerate dehydrogenase.	$56,000.00
TOTAL	**$ 56,000.00**

BRIDGE FUNDING AWARD

Investigator(s), Department, Institution. Project or Field of Research.	Amount
Del Bigio, Marc, Department of Pathology, University of Manitoba. Blood mediated brain damage following hemorrhagic stroke.	$ 15,500.00
TOTAL	**$15,500.00**

REGIONAL PARTNERSHIP AWARDS – OPERATING GRANTS

Investigator(s), Department, Institution. Project or Field of Research.	Amount
Arthur, G., Department of Biochemistry & Medical Genetics, University of Manitoba. The role of phosphatidylethanolamine in cell growth.	$65,606.00
Choy, Patrick, Biochemistry & Medical Genetics, University of Manitoba. Control of arachidonate release by phospholipase A2.	$27,479.00
Dawes, Colin, Department of Oral Biology, University of Manitoba. Studies on dental plaque and saliva.	$29,623.00
Evans, J., Department of Biochemistry & Medical Genetics, University of Manitoba. Patterns of birth defects.	$29,643.00
Gartner, J., Department of Pathology, University of Manitoba. Pathologic mechanisms of intestinal graft-vs-host disease (GVHD).	$39,514.00
Gilchrist, James, Oral Biology, St. Boniface Hospital Research Centre. Calcium handling mechanisms in sarcoplasmic reticulum membranes.	$36,835.00
Kupriyanov, Valerian, Institute for Biodiagnostics, National Research Council. Visualization of cardiac ischemia and infarction using 87Rb-MRI, contrast agent-aided 1H-MRI and optical imaging in vivo.	$30,913.00

Investigator(s), Department, Institution. Project or Field of Research.	Amount
Kupriyanov, Valery, Institute for Biodiagnostics, National Research Council. Regulation of potassium homeostasis in normal and ischemic myocardium: 87Rb and 31 NMR.	$20,866.00
Lekic, Charles, Department of Dental Diagnostic & Surgical Sciences, University of Manitoba. Fate and differentiation of periodontal ligament cells.	$33,214.00
Leslie, B., Department of Interal Medicine, St. Boniface Hospital. First Nations bone health study (FNBHS).	$112,751.00
Minuk, Gerry, Department of Internal Medicine, University of Manitoba. Effects of light and moderate alcohol consumption on liver regeneration.	$ 40,000.00
Murphy, Liam, Department of Internal Medicine, University of Manitoba. Insulin-like growth factor binding protein.	$35,497.00
Murphy, Leigh, Department of Biochemistry & Medical Genetics, University of Manitoba. Mechanisms of estrogen dependence and independence in human breast tumorigenesis and breast cancer progression: beyond the estrogen receptor-cogs, wheels, kinases and their role in hormone independence.	$51,278.00
Nance, Dwight, Department of Pathology, Faculty of Medicine University of Manitoba. Neural regulation of cutaneous inflammation and immunity after spinal cord injury.	$40,615.00
Orr, W., Department of Pathology, University of Manitoba. Study of liver cancer spread.	$41,671.00
Parkinson, Fiona, Department of Pharmacology & Therapeutics, University of Manitoba. Adenosine permeation of an in vitro blood-brain barrier.	$ 21,622.00

Investigator(s), Department, Institution. Project or Field of Research.	Amount
Rosser, Barry, Department of Interrnal Medicine, University of Manitoba. Role of PKC and proteases in bile acid-induced Hepatocyte Apoptosis.	$ 29,822.00
Singal, Pawan, Physiology, St. Boniface Hospital Research Ctr. Vitamin A depletion and oxidative stress in cell death and heart failure.	$35,381.00
Sitar, Daniel, Department of Pharmacology & Therapeutics, University of Manitoba. Control of kidney function.	$31,214.00
Wylie, John, Cadham Provincial Laboratory. Social networks and infectious disease: social and sexual behaviours within sexually transmitted disease networks in Manitoba.	$28,192.00
Ye, J., Department of Biochemistry & Medical Genetics, University of Manitoba. Brain protection during circulatory arrest.	$ 35,531.00
Young, T.K., Department of Community Health Sciences, University of Manitoba. Risk factors of type-2 diabetes in Aboriginal children.	$ 9,396.00
TOTAL	**$826,663.00**

REGIONAL PARTNERSHIPS AWARDS – SALARY AWARDS

Investigator(s), Department, Institution. Type of Award.	Amount
Blanchard, Jamie, Department of Medical Microbiology, University of Manitoba. Salary award.	$ 38,500.00
Hatch, Grant, Department of Pharmacology & Therapeutics, University of Manitoba. Salary award.	$ 38,500.00
TOTAL	**$ 77,000.00**

PERSONNEL AWARDS

NEW POSTDOCTORAL FELLOWSHIP AWARDS

Fellow (Supervisor), Department, Institution. **Project or Field of Research.**	**Award**
Alimonti, Judie B., (Dr. A.H. Greenberg), Manitoba Institute of Cell Biology, CancerCare Manitoba. Molecular regulation of granzyme B mediated apoptosis.	$30,000.00
Moon, Michael (Dr. P. Zahradka) St. Boniface Hospital Research Ctr. The role and regulation of cytokeratin expression in vascular smooth muscle cells following injury and their role in restenosis.	$30,000.00
Pattarini, Roberto, (Dr. J.D. Geiger), Department of Pharmacology and Therapeutics, University of Manitoba. Nucleoside HIV-1 antiretroviral drug uptake into brain cells.	$30,000.00
Zhisheng, Jiang, (Dr. E. Kardami), Institute of Cardiovascular Sciences, St. Boniface Hospital Research Ctr. Mechanism of FGF-2 cardioprotection.	$30,000.00
TOTAL	**$120,000.00**
Travel awards	**$4,000.00**

POSTDOCTORAL FELLOWSHIP RENEWALS

Fellow (Supervisor), Department, Institution. **Project or Field of Research.**	**Award**
Baijal, Priti, (Drs. A. Greenberg & S. Mai), MB Institute of Cell Biology, CancerCare Manitoba. Apoptosis and genomic instability/Regulation of B cell neoplasia via extrachromosomal DNA induced apoptosis.	$30,000.00
Brown Gladden, Jennifer, (Dr. M. Mowat), MB Institute of Cell Biology, MB CancerCare Manitoba. Genetic markers in non-small cell lung cancer.	$30,000.00

Fellow (Supervisor), Department, Institution. **Project or Field of Research.**	**Award**
Campbell, John, (Dr. K. T. HayGlass), Department of Immunology, University of Manitoba. Chemokine function in maintenance of established type 1 and type 2 cytokine responses: The Role of IP-10.	$30,000.00
Othman, Timothy, (Dr. F. Parkinson), Department of Pharmacology and Therapeutics, University of Manitoba. Biochemical and neurobehavioral investigations of the adenosinergic system in fetal alcohol syndrome.	$30,000.00
Total	**$120,000.00**
Travel awards	**$4,000.00**

NEW GRADUATE STUDENTSHIP AWARDS

Student (Supervisor), Department, Institution. **Project or Field of Research.**	**Award**
Danelisen, Igor, (Dr. P.K. Singal), Institute of Cardiovascular Sciences, St. Boniface Hospital Research Ctr. Role of retinoic acid and its metabolites in oxidative stress-mediated, adriamycin-induced cardiomyopathy.	$15,700.00
Frosk, Patrick , (Dr. K. Wrogemann), Department of Biochemistry and Medical Genetics, University of Manitoba. Modifier genes in Limb Girdle Muscular Dystrophy 2B/Myoshi Myopathy.	$15,700.00
Guo, Xiaobing , (Dr. N.S. Dhalla), Institute of Cardiovascular Sciences, St. Boniface Hospital Research Ctr. Molecular effects of renin angiotensin system blockade in heart failure.	$15,700.00
Han, Xiaobing , (Dr. X. Yang), Department of Medical Microbiology, University of Manitoba. Effect of intracellular bacterial infection (Chlamydia) on allergic response to allergen (ovalbumin).	$15,700.00
Krishnan, Jayakumar , (Dr. J.A. Wilkins), Rheumatic Disease Unit Laboratory, University of Manitoba. Immunology	$15,700.00

Student (Supervisor), Department, Institution. Project or Field of Research.	Award
Kumar,Ayush, (Dr. E. Worobec) Department of Microbiology, University of Manitoba. Role of OmpC and OmpF porins in antibiotic resistance of Serratia marcescens.	$15,700.00
Leclair, Leanne L., (Dr. A. Yassi), Department of Community Health Sciences, University of Manitoba. Community Health Sciences master's program.	$15,700.00
Mauthe, Jill M., (Dr. S. Pind), Department of Biochemistry and Medical Genetics, University of Manitoba. Expression and genomic organization of 3-phosphoglycerate dehyrogenase	$15,700.00
McLachlan, Elizabeth , (Dr. G. Valdimarsson), Department of Zoology, University of Manitoba. Developmental molecular biology	$15,700.00
McWilliams, Lachlan, (Dr. M. Thomas), Department of Psychology, University of Manitoba. Ph.D. in Clinical Psychology	$ 2,616.67
Mendez, Israel I., (Dr. K.M. Coombs), Department of Medical Microbiology, University of Manitoba. Genetic and biochemical analyses of transcription in reovirus.	$15,700.00
Mhanni, Aizeddin A., (Dr. R. McGowan), Section of Genetics and Metabolism, Health Sciences Centre. Characterization of DNA methylation in zebrafish.	$15,700.00
Pampolina, Caroline , (Dr. A. McNicol), Department of Oral Biology, University of Manitoba. Oral bacteria-induced platelet activation.	$15,700.00
Schnabl, Kareena , (Dr. B. Hasinoff), Faculty of Pharmacy, University of Manitoba. MSc. Pharmacy	$15,700.00
Shuttleworth, Tamara L., (Dr. B. Triggs-Raine), Department of Biochemistry and Medical Genetics, University of Manitoba. Functional studies of hyaluronidase 1.	$15,700.00

Student (Supervisor), Department, Institution. Project or Field of Research.	Award
Stuart, Tammy L., (Dr. F.A. Plummer), Department of Medical Microbiology, University of Manitoba. HIV genetic diversity and the Interaction and effects of the various subtypes.	$15,700.00
Todd, Stacey L., (Dr. K.R. Grant), Department of Sociology, University of Manitoba. MA in sociology.	$15,700.00
Weber, Michael H., (Dr. F.W. Orr), Department of Pathology, University of Manitoba. Detection and quantitative evaluation of bone metastases by magnetic resonance imaging.	$15,700.00
TOTAL	**$269,516.67**

GRADUATE STUDENTSHIP RENEWAL AWARDS

Student (Supervisor), Department, Institution. Project or Field of Research.	Award
Abrenica, Bernard, (Dr. J. S. C. Gilchrist), Oral Biology, St. Boniface Hosp. Research Centre. Mobilization of Ca2+ pools in the perinuclear lumen regulates nuclear Ca2+ concentration.	$15,700.00
Carrie, Anita, (Dr. G. G. Zhanel), Faculty of Pharmacy, University of Manitoba. Pharmacoepidemiology.	$15,700.00
Chambers, Kathleen, (Dr. R. P. Bird), Foods & Nutrition, University of Manitoba. Nutritional Sciences, Ph.D.	$15,700.00
Cheung, Wang-Kit (Leo), (Dr. J. F. Brewster), Statistics, University of Manitoba. Statistical Genetics- Bioinformatics.	$15,700.00
Dullat, Charan, (Dr. R. Grymonpre), Faculty of Pharmacy, University of Manitoba. Validity and reliability of a prescription claims database (DPIN) to measure medication adherence in the elderly.	$15,700.00

Student (Supervisor), Department, Institution. Project or Field of Research.	Award
Faustino, Randolph, (Dr. G. Pierce), Physiology, St. Boniface Hosp. Research Ctr. Vascular physiology: Regulatory proteins of the nuclear pore complex.	$15,700.00
Frankenstein, Uta, (Dr. M. C. McIntyre), Physiology, National Research Council. Neuroscience: Blood oxygen level dependent (BOLD) functional magnetic resonance imaging (fMRI) of the anterior cingulate gyrus (ACG) and associated neural networks during pain.	$15,700.00
Holens, Pamela, (Dr. R. V. De Luca), Psychology, University of Manitoba. Clinical Psychology.	$15,700.00
Kelly, Sherrie, (Dr. B. Triggs-Raine), Biochemistry and Medical Genetics, University of Manitoba. Determination of the role of the hGrb14 BPS domain in insulin signaling.	$15,700.00
Li, Mingyi, (Dr. D. A. Court), Microbiology, University of Manitoba. Molecular Biology: Mitochondrial DNA replication machinery.	$15,700.00
Norquay, (Daly) Lisa, (Dr. P. A. Cattini), Physiology, University of Manitoba. Molecular Biology: The tissue-specific transcriptional regulation of human growth hormone gene family.	$15,700.00
Patrick, Megan, (Dr. K. Coombs), Medical Microbiology, University of Manitoba. Basic Virology: Molecular and genetic study of avian reovirus mutants.	$15,700.00
Regula, Kelly, (Dr. L. A. Kirshenbaum), Physiology, St. Boniface Hosp. Research Ctr. MSc in Cardiovascular Physiology.	$15,700.00
Sadri, Parissa, (Dr. W. W. Lautt), Pharmacology, University of Manitoba. Pharmacology: The role of nitric oxide in the hepatic control of insulin sensitivity.	$15,700.00

Student (Supervisor), Department, Institution. Project or Field of Research.	Award
Schroeder, Patricia, (Dr. B. Hasinoff), Faculty of Pharmacy, University of Manitoba. Medicinal chemistry.	$15,700.00
Wang, Jingwei, (Dr. N. S. Dhalla), Physiology, St. Boniface Hosp. Research Ctr. Cardiovascular physiology.	$15,700.00
TOTAL	**$251,200.00**

UNIVERSITY/INDUSTRY PROGRAM

SCIENTIFIC REVIEW COMMITTEE

Dr. Grant Pierce, Chair
Div. of Stroke and Vascular Disease,
St. Boniface Hospital Research Ctr.

Dr. Donna Chow
Department of Immunology
University of Manitoba

Dr. Pat Choy
Associate Dean (Research)
Faculty of Medicine
University of Manitoba

Mr. Fred Florence, CA
Director, Investment Services
Crocus Investment Fund

Dr. Donald Houston
Manitoba Institute of Cell Biology
CancerCare Manitoba

Dr. Wendy Johnson
Cangene Corporation

Dr. Dean Kriellaars
Department of Medical Rehabilitation
Faculty of Medicine
University of Manitoba

Mr. Doug McCartney
Dept of Industry, Trade & Mines
Province of Manitoba

Mr. Tom McCormack
Department of Health
Province of Manitoba

Dr. Ray Somorjai
Institute for Biodiagnostics
National Research Council

UNIVERSITY/INDUSTRY OPERATING GRANTS

Investigator(s), Department, Institution/Company. Project Title.	Award MHRC/Company
Mai, Sabine, Manitoba Institute of Cell Biology, CancerCare Manitoba/ Applied Spectral Imaging Ltd. New approaches towards the early detection and analysis of cancer.	$18,750.00/$18,750.00
Ogborn, Malcolm, Department of Pediatric Nephrology, Children's Hospital of Winnipeg/Flax Council of Canada. Molecular mechanisms of flax product modification of kidney disease.	$30,000.00/$30,000.00
Totals	**$48,750.00/$48,750.00**